

Use of Insecticide treated bed nets amongst Public Health Physicians in Nigeria

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Abstract: BACKGROUND: Malaria contributes to high morbidity and mortality rate in both young and old in this part of the world. One of the methods for the prevention of malaria is the use of Insecticide treated bed nets. These were distributed to household. It is therefore very important to know, if the people who are advocating the use like the public health physicians are actually practicing it. **OBJECTIVE:** To determine the access of insecticide treated bed nets (ITNs) to the public health physicians and to determine the utilization of the ITNs. **METHODS:** A cross sectional study was carried out with structured questionnaire distributed to all consented public health physicians who were around when the questionnaire were distributed at the Association conference held during the election year 2013 in Ilorin, Nigeria. **RESULTS:** Out of the two hundred questionnaire distributed 174 (87%) were collected back. There were females 88(51%) and males 86(49%). The majority 79 (48%) of the respondent who indicated their ages were age group of 31-40 years. About 110(63.2%) had access to ITNs while 37(33.6) out of them always use it and most non-utilization factor was sweating. **CONCLUSION:** Although a good number of the respondent have access to the nets only few use it due to the tropical nature of resource limited country like Nigeria. It is therefore necessary to manufacture user-friendly ITNs.

Key words: Insecticide Treated Nets, Physicians

I. Introduction

Malaria is endemic in this part of the world and it is responsible for 60 % outpatient visits to health facilities, 30 % childhood death, 25 % of death in children under one year, 11 % maternal death. The financial loss due to malaria annually is estimated to be about 132 billion Naira in form of treatment costs, prevention, loss of man-hours etc, yet, it is a preventable and treatable disease¹

Insecticide-treated nets (ITNs) are a key prevention tool that have been found to reduce uncomplicated malaria in children by 51 % and decrease all-cause mortality by 18 % in children aged 1–59 months². By preventing malaria, LLINs reduce the need for treatment and the pressure on health services³.

Previous malaria prevention strategies aimed for high levels of ownership and use of insecticide-treated nets (ITNs) by vulnerable groups for example, pregnant women, children below 5 years. More recently, the goal has shifted to 'Universal Coverage', whereby every person living in a malarious area sleeps under an ITN, preferably a Long-lasting Insecticidal Net (LLIN)⁴.

With the significant increase in funding in the recent decade, many countries across sub-Saharan Africa, including Nigeria, are rapidly increasing ITN ownership, through several strategies including, social marketing^{5,6,7}, free distribution to target groups (through antenatal care (ANC) or immunization campaigns⁸⁻¹², and more recently, free universal population-based distribution campaigns targeting the entire population at risk^{6,8,12,13,14}.

In order to improve access to LLINs, the Federal government under the National Malaria Control Programme embarked on free mass distribution of LLINs in public primary health facilities, with the aim of ensuring wide-scale, rapid and equitable deployment of LLINs. The LLINs were distributed through routine distribution methods and campaigns.

It is therefore very important to know, if the people who are advocating the use like the Public health physicians are actually practicing it.

Objectives

- To determine the access of insecticide treated bed nets (ITNs) to the public health physicians
- To determine the utilization of the ITNs

II. Methodology

A cross sectional study was carried out with structured questionnaire distributed to all consenting Public Health Physicians who were around when the questionnaires were distributed at the Association Conference held during the election year 2013 in Ilorin, Kwara State, Nigeria.

Long lasting Insecticidal Nets(LLIN): A factory-treated mosquito net with insecticide incorporated into or bound around the fibres, or a mosquito net treated with a long-lasting insecticidal treatment kit, that retains its biological activity for at least 20 WHO standard washes under laboratory conditions and 3 years of recommended use under field conditions without re-treatment ⁴.

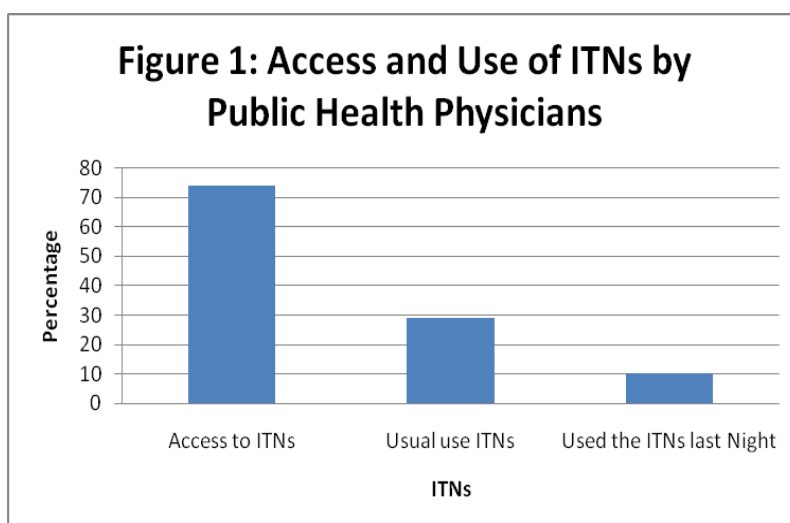
Access: A person is said to have access to an LLIN if there is an LLIN available for that person to sleep under every night. Whether or not the person *does* sleep under the LLIN is an issue of use, *not* an issue of access ⁴. The sample size calculated was 136. However 200 questionnaires were distributed. The data collected was analyzed with Excel and Epi-info

III. Results

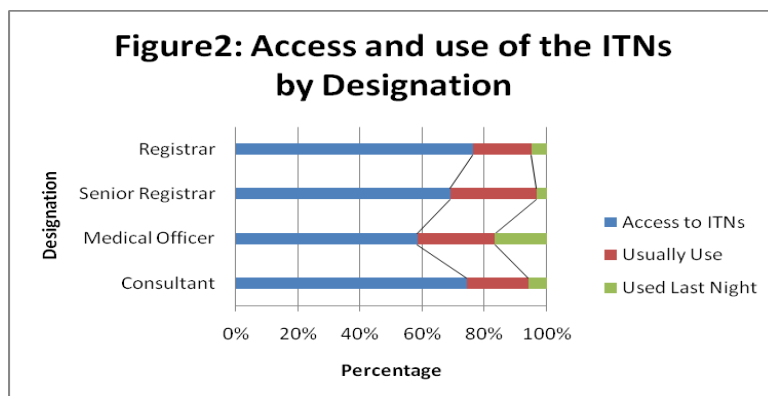
Out of the two hundred questionnaires distributed 174 (87%) were collected back and 26(13%) did not respond. There were Females 88(51%) and Males 86(49%). The majority79 (48%) were age group of 34-43 years. About 110(63.2%) had access to ITNs while 37(33.6%) out of them always use it and most common factor responsible for non-utilization was sweating 33(30.3%), not necessary 13(11.9%), net in the window 11 (10.1%), Forgot11(10.1%), irritable 7(6.4%) . Other methods used by the respondents in prevention of malaria were mostly clean environment 136 (20.3%), followed by indoor sprays 128(18.5%) and then clearing vegetations100 (15%). Most of them got the nets through Universal ITNs Campaign 54(37%), Market 38(26%), Friends 19(13%) and Antenatal 13(9%).

Table I Demographic Data

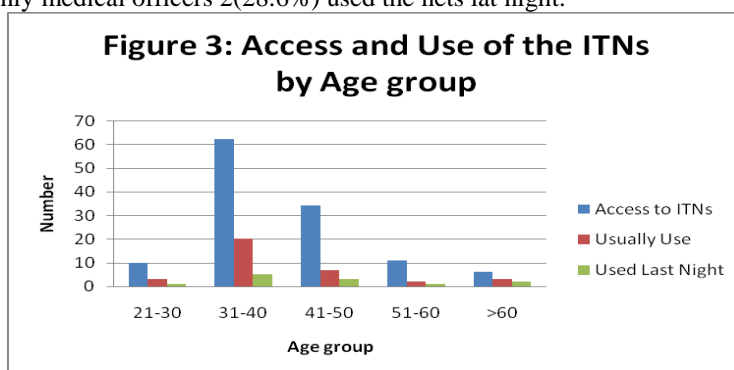
Sex	Frequency	Percentage
Male	86	49.5
Female	88	50.5
Age Group		
21-30	18	10.7
31-40	86	51.2
41-50	41	24.4
51-60	16	9.5
>60	7	4.2
Designation		
Consultants	63	37.5
Medical Officer	12	7.1
Senior Registrar	27	16.1
Registrar	64	38.1
Marital Status		
Married	144	84.2
Single	24	14.4
Widow	2	1.2
Divorced	1	0.6



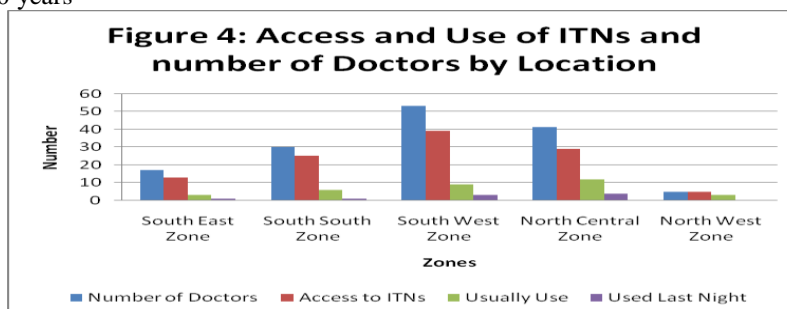
Majority 128(73.6) had access to Insecticide treated bed Nets(ITNs) but only 37(29%) usually use the ITNs and 13(10%) used it last night. P value <.05 is statistically significant.



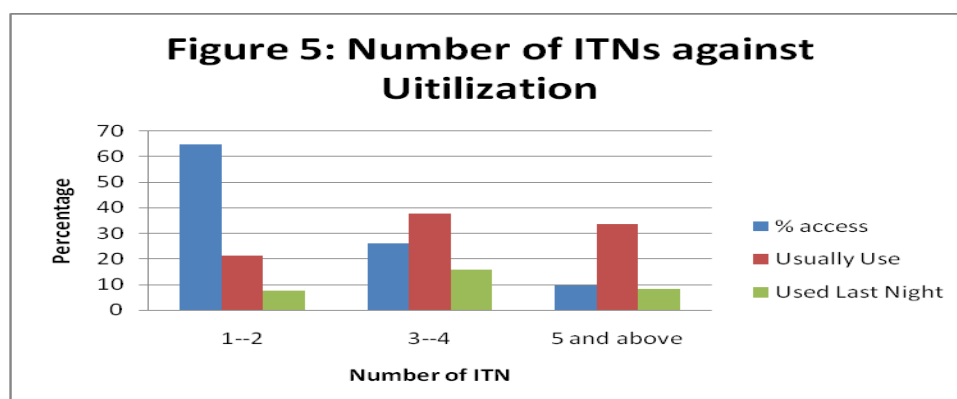
The Consultants had the highest access to ITNs 49(77.8%), followed by Registrar 45(70.3%). However the Medical Officer 3(42.8%) and senior Registrar 8 (40%) had higher percentage of those that had access usually use the net while mainly medical officers 2(28.6%) used the nets last night.



The age group 31-40 had the highest access to ITNs also most usually use the nets and used last night followed by age group 41-50 years



The respondent and access to the nets were more from the South West Zone while the North Central Usually and used it last night most.



Majority of the households had 1-2 ITNs 80(64.5%) out of which 17(25.8%) usually use while only 6(9.5%) used it last night. The number of Housholds with 3-4 nets were 32(21.2%) but most of them used the net. Out of these 13(37.5%) usually use it and 33.3% used it last night. The same with 5 and above except it is slightly lower than 3-4 nets in housholds. P value is <0.05, it is statistically significant.

IV. Discussion

The good number of the Community Health Physicians responded, this showed that many people are conversant with insecticide treatment Nets. The physicians were more of females this could be another reason for good response since women and children were the vulnerable group targeted initially before the universal distribution of the nets. This may actually show that females are well represented or dominated Community Health Department.

The access to the insecticide treated bed nets was very high. This is in contrast to the findings of the Nigerian national demographic and Health survey of 2008¹⁵ and the Malawi demographic survey in 2000 and 2004¹⁶ although there was increase in Malawi in 2004 but it was only to 35%. The result from this study is similar to the findings in Kenya¹⁷ among children less than 5 years and also the study done in Kano state, Northern Nigeria showed increase from 10% to 70%.¹⁸ Another survey done in Anambra State, Eastern Nigeria showed a very high coverage of 80.5% with LLINs.¹⁹

Although the access was high the utilization was low. Those who usually sleep under the net was higher than those who slept under the net last night, this could be due to the fact that most people did not sleep in their houses since they came for conference probably slept in the hotel without ITNs. The number that usually sleep under the net was still not encouraging. The result in this study is in contrast with high percentage of people who slept under the net last night in study done in Kano¹⁸ and Anambra¹⁹ States Nigeria. However in both studies those who slept under the net last night were still lower than those had the night. The study has shown that many people who has the nets do not actually sleep under it. The reason given by most respondents was sweating, this could be the tropical nature of the climate.

Although the number that had possession of the nets were mainly consultants and registrars but the most usually used and used last night were the medical officers and senior registrar this could be due to the medical officers may be from the ministry and were at home to use it.

Those with the nets, usually use and used last night were most in age group 31-40 this could be due to being the active age group with children and women of child bearing group among the vulnerable group that the nets were distributed earlier, before the universal distribution. The household could have received more nets during the distribution of vulnerable group and universal period.

Although the number of physicians, access to ITNs and usually use where more from South Western Nigeria, most of the people who used the ITNs last night were mainly from the North central Nigeria this could be because Ilorin where the conference was taking place was in North central and most of them could have slept in their houses last Night unlike those travelled from other Zones and slept in the Hotels.

Although most of the people had 1-2 ITNs similar to the study in Anambra state Nigeria¹⁹, but majority of those who had more than 2 nets slept under the net. This could be due to the fact that the children and pregnant mothers will be considered first. Therefore if more are left the adults will have the chances of using the remaining nets. Although most of the respondents got their nets through the universal ITNs Campaign, good number bought from the market it is difficult to explain why people will not even use what they spent their money to purchase. Other methods mainly used to prevent malaria were clean environment, aerosol spray and clearing vegetations.

V. Conclusion

Although a good number of the respondent had access to the nets only few used it due to the tropical nature of resource limited country like Nigeria. It is therefore necessary to manufacture user-friendly ITNs. It is a thing of note that the preacher of ITN's the Public Health Doctors was not using it, so it will be difficult to get the community to use it. It is therefore important to intensify health education and supply enough net per household to be able to effect behavioural change concerning the use of available ITNs.

Ethical Consideration: Ethical approval was gotten from the ethical committee of Federal Medical Centre, Umuahia: Assigned number: FMC/QEH/G.596/Vol.10/049

Competing Interest: The authors declare no competing interest.

Approval by the Authors: The authors approved the publication of the manuscript.

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